



UH251

Preliminary

CMOS IC

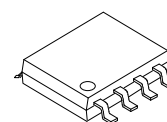
LOW-SATURATION, LOW-VOLTAGE 1.5 CHANNEL BI-DIRECTIONAL MOTOR DRIVER

DESCRIPTION

The device is a 1.5-channel low-saturation bi-directional motor driver IC. The design is optimal for motor applications, such as cameras, printers, FDDs, or other portable devices with forward, reverse, brake and stand-by function.

FEATURES

- * Low voltage operation ($V_{DDMIN}=V_{SMIN}=1.5V$)
- * Low saturation voltage (Upper transistor + low transistor residual voltage; 0.4V typ. at 300mA, $V_{DD}=V_S=3V$)
- * Low input current
- * Brake function
- * High output sinking and driving capability



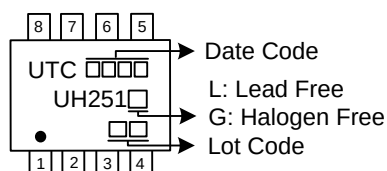
SOP-8

ORDERING INFORMATION

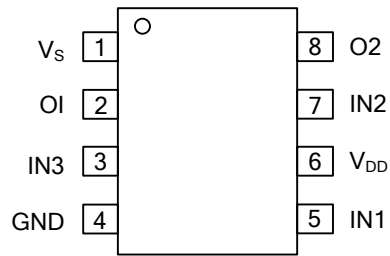
Ordering Number		Package	Packing
Lead Free	Halogen Free		
UH251L-S08-R	UH251G-S08-R	SOP-8	Tape Reel

UH251G-S08-R (1) Packing Type (2) Package Type (3) Green Package	(1) R: Tape Reel (2) S08: SOP-8 (3) G: Halogen Free and Lead Free, L: Lead Free
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MARKING



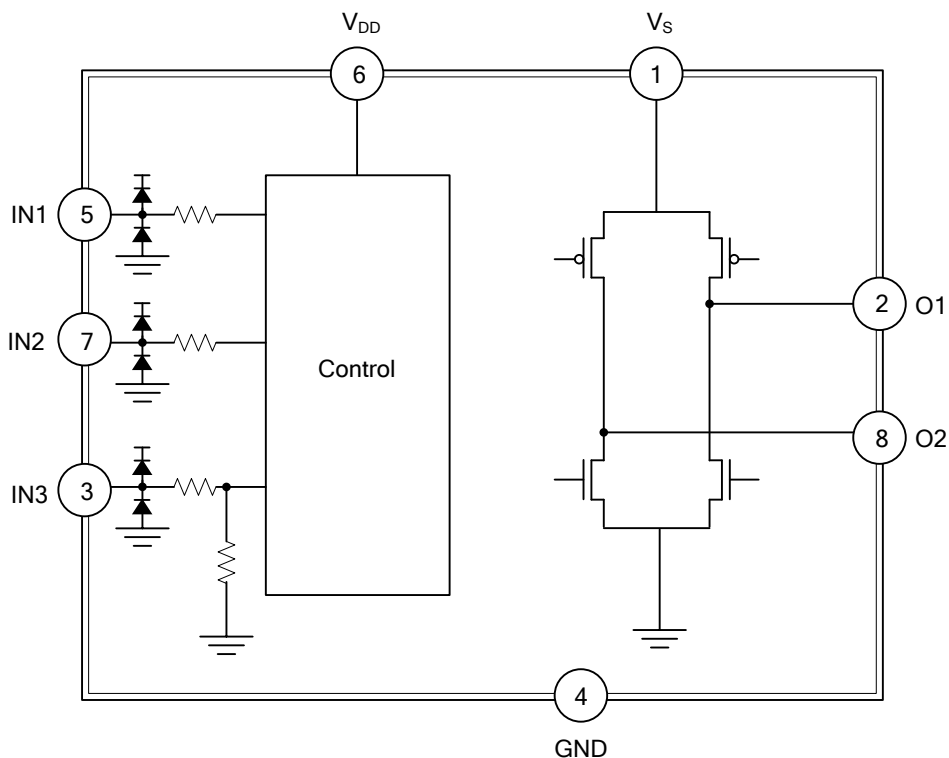
PIN CONFIGURATION



PIN DESCRIPTION

PIN NO.	PIN NAME	DESCRIPTION
1	V_S	Power supply pin for output driver
2	O1	Output sinking/driving pin
3	IN3	Input pin 3 that determines driving mode
4	GND	Ground pin
5	IN1	Input pin 1 that determines driving mode
6	V_{DD}	Power supply pin for controller.
7	IN2	Input pin 2 that determines driving mode
8	O2	Output sinking/driving pin

BLOCK DIAGRAM



■ **ABSOLUTE MAXIMUM RATING** ($T_A = 25^\circ\text{C}$, unless otherwise specified)

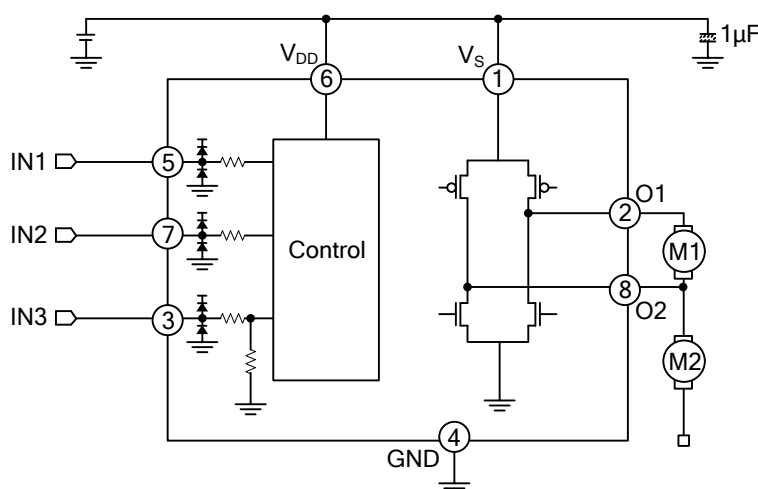
PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V_{DD}	5.5	V
	V_S	5.5	V
Input Voltage	V_{IN}	$V_{DD}+0.4$	V
I_O Peak Current	I_{OPEAK}	2	A
I_{ODC} Current	I_{ODC}	0.75	A
Power Dissipation	P_D	680	mW
Operating Temperature Range	T_{OPR}	$-40 \sim +125$	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	$-65 \sim +150$	$^\circ\text{C}$

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ **ELECTRICAL CHARACTERISTICS** ($V_{DD}=V_S=3\text{V}$, $T_A = 25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Supply Voltage	V_{DD}		1.5	3	5.5	V
	V_S		1.5	3	5.5	V
Supply Current ($I_{DD}+I_S$)	I_{DD0}	$V_{IN1}, IN2, IN3=0\text{V}$		0.5	10	μA
	I_{DD1}	$V_{IN1}, IN2, IN3=3\text{V}$		1	10	μA
IN1/IN2/IN3 Input Terminal ($T_J=25^\circ\text{C}$)						
Input Voltage "H"	V_{IH}		$0.8 \times V_{DD}$		$V_{DD}+0.4$	V
Input Voltage "L"	V_{IL}		-0.4		$0.2 \times V_{DD}$	V
Input Current "H"	I_{IH}	$V_{IN}=V_{DD}$			± 5	μA
Input Current "L"	I_{IL}	$V_{IN}=0\text{V}$			± 5	μA
O1/O2 Output Terminal ($T_J=25^\circ\text{C}$)						
Output Voltage (Upper+Lower)	V_{OUT1}	$I_{OUT}=200\text{mA}$		0.3	0.45	V
	V_{OUT2}	$I_{OUT}=300\text{mA}$		0.5	0.7	V
	V_{OUT3}	$I_{OUT}=600\text{mA}$		0.9	1.0	V
Output Sustaining Voltage	$V_{O(SUS)}$	$I_{OUT}=400\text{mA}$			V_S	V

■ TYPICAL APPLICATION CIRCUIT



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